ThrusterSCAN

Online Thruster Condition Monitoring
ThrusterSCAN delivers early warning of thruster component damage, lubricant degradation and seal failures; whilst providing information to help optimise thruster usage

Parker Kittiwake’s ThrusterSCAN removes the uncertainty related to thruster condition and gives real-time feedback on the effect of altering operating parameters.

This critical information can be used to make informed decisions regarding thruster operation, lubricant changes and overhaul intervals.

With both local and remote display, alarms and data management, ThrusterSCAN is easily integrated into any maintenance regime.

ThrusterSCAN Helps:

- Reduce failures and unscheduled downtime
- Effectively manage thruster overhaul schedules
- Utilise thrusters, based on actual condition
- Reduce on-rig costs, by centrally managing the fleet
- Provide rapid feedback to engineers during thruster troubleshooting
- Manage lubricant usage, based on actual condition

ThrusterSCAN Benefits:

Continuous online monitoring provides the most representative picture of thruster condition. Changes are highlighted as they start to occur and not just at scheduled inspections. Preventative action can then be taken before any significant damage has occurred.

ThrusterSCAN provides accurate feedback on the mechanical wear occurring in your thrusters, the condition of their lubricants and gives rapid alert of seal leaks and seal failures.

If the wear rate increases, the lubricant degrades or water is detected, ThrusterSCAN will generate alarms allowing for immediate action. Thruster outputs can then be adjusted accordingly or thrusters taken off-line, prior to failure occurring.

With flexible display options as standard, ThrusterSCAN instantly puts the information that counts in front of the person that needs it most; whether they are located on-board or even on a different continent.

ThrusterSCAN Features:

- Up to 8 individual thrusters can be monitored using the system
- Fully automated operation
- Accurate and actionable data on your thrusters’ wear levels
- On-screen trending of all parameters
- Individual thruster room and central control room touch-screen interfaces
- Full, secure logging of all data and system changes
- Remote system control and data access using standard web browsers
- Automated email warnings and alarms
- Option to simultaneously monitor both thruster and seal oil systems*
- Simple installation for both new-builds and retrofits
- Option to display key vibration system data, alarms, Acoustic Emissions sensors etc.*

* Where circulating seal oil system exists
* Where vibration system exists/system dependent
ThrusterSCAN addresses the imbalance between the critical operational nature of thrusters and the minimal condition information normally available. Personnel can quickly and easily check the current condition of thrusters and make informed operational decisions.

Without ThrusterSCAN, problems can run unchecked resulting in costly damage, downtime and even catastrophic failures. ThrusterSCAN’s automated warnings and alarms alert to the earliest possible stages of potential problems.

About ThrusterSCAN:

Individual Thruster Monitoring Units are installed local to each thruster and consist of:

- Touch-screen Human Machine Interface (HMI)
- Metallic Particle Sensor
- Oil Condition Sensor
- Moisture Sensor
- Oil Temperature Sensor
- Acoustic Emissions Sensors (optional)
- Sampling Pump

Each Thruster Monitoring Unit communicates to a single, central Master Control Panel*, providing access to all system information. Full control and data access is available on any computer connected to the local area network. Comprehensive security and auditable logs ensure trouble free running. Option to link to vibration systems*, provides a single system for all key data and alarms.

* ThrusterSCAN communicates using Modbus over TCP / IP, utilising the existing local area network, for both ThrusterSCAN and installed vibration systems.

Simple Interpretation and Communications

Simple, industrial grade touch screen interfaces combine with easy to use, chart-based trending tools to provide a truly intuitive user interface.

Personnel can check thruster condition with a single glance and further interrogate the system only when required. Colour coded warnings and alarms allow instant decisions to be made as to the urgency of response required.

Whether the responsible person is on-board or shore based, they are alerted immediately and can assess thruster condition using any computer remotely connected to the local area network.

The graphical user interface guides the user through the system to the correct area and works on a “most severe problem first” basis.

Installation Information

ThrusterSCAN is simple to install, whether as part of a new-build program or as a retrofit to existing thrusters. Thrusters remain in-situ and the only invasive work is limited to in-board lubricant lines.

- The following work is required prior to commissioning ThrusterSCAN:
  - Main drive lubricant inlet(s) and outlet(s) created
  - Seal oil sensor manifold(s) fitted (optional*)
  - Thruster Monitoring Unit(s) mounted in thruster room
  - Master Control Panel mounted in control room
  - Network and power supplied to Thruster Monitoring Unit(s) and Master Control Panel

* Where circulating seal oil system exists
## Ordering Information

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>FG-K17755-KW</td>
<td>Thruster Monitoring Unit (One per Thruster)</td>
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<tr>
<td>FG-K17756-KW</td>
<td>Master Control Panel (One per 4 Thruster Monitoring Units max)</td>
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<tr>
<td><strong>Optional Seal Oil Monitoring</strong></td>
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<tr>
<td>FG-K19509-KW</td>
<td>Seal Oil Sensor - Oil Condition (One per Thruster)</td>
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<tr>
<td>FG-K19528-KW</td>
<td>Moisture Sensor - Oil Condition (One per Thruster)</td>
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<tr>
<td><strong>Optional Acoustic Emissions Monitoring</strong></td>
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<tr>
<td>FG-K19404-KW</td>
<td>2 x Acoustic Emission Sensors</td>
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<tr>
<td>FG-K19527-KW</td>
<td>Acoustic Emission Sensor PC interface</td>
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</tbody>
</table>

The information contained in this datasheet is subject to change without notice.